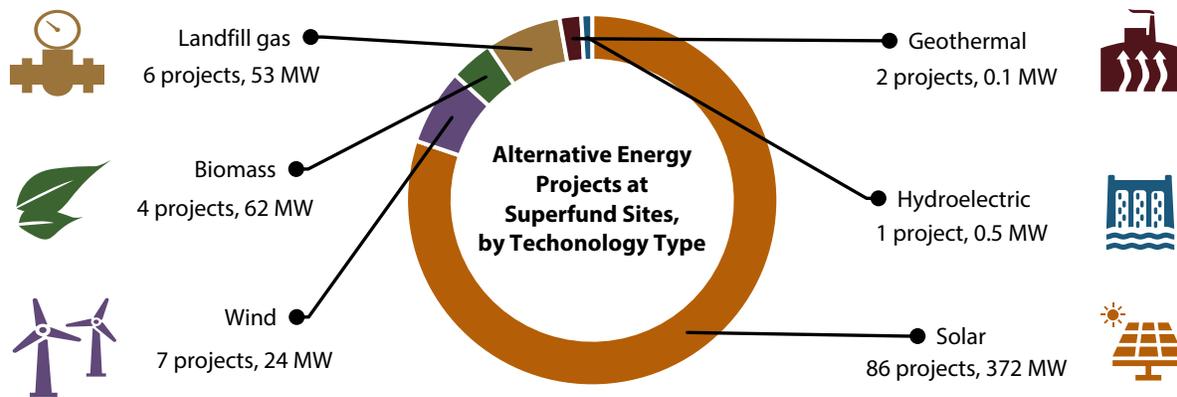


EPA Superfund Redevelopment Program helps communities return formerly contaminated lands to productive use. Once remediated, many Superfund sites are well suited to support alternative energy production, including solar, wind, landfill-gas-to-energy, geothermal, hydropower and biomass projects.

Alternative Energy at Superfund Sites

Number of Superfund Sites	82
Number of Projects	106
Installed Capacity (MW)	512
Energy Production (MWh)	1,459,239

As of September 2022, alternative energy facilities are located at 82 Superfund sites.¹ They support 106 alternative energy projects with an installed capacity of about 512 megawatts (MW), enough to power more than 122,832 homes for one year.^{2,3} Of these projects, 81% are solar projects and 7% are wind projects. Biomass, landfill gas, geothermal and hydropower facilities make up the remaining 12% of the projects. In total, more than two-thirds of sites have an installed capacity of 1 MW or more. The largest alternative energy facility is a 37.5 MW biomass energy plant at the Gallup’s Quarry Superfund site in Connecticut. About a quarter of projects offset some or all their on-site energy demands for cleanup efforts.



Planning for additional alternative energy projects is underway. A reuse assessment at the Agriculture Street Landfill Superfund site in New Orleans, Louisiana, identified potential solar footprint areas based on site property ownership and remedy constraints. EPA Superfund Redevelopment Program is supporting EPA Regions and stakeholders with solar suitability assessments at several sites. These assessments characterize alternative energy sources, priorities and potential areas.

¹ Alternative energy is defined in this document as non-fossil-fuel-based and non-nuclear-based sources of energy. There are two Superfund sites supporting two types of alternative energy reuse.

² These figures are estimates, based on publicly available developer information, direct communication with EPA staff and, when not available through the preceding sources, the National Renewable Energy Laboratory’s PVWatts calculator: <https://pvwatts.nrel.gov/pvwatts.php>.

³ Based on average annual electricity consumption of 11,880 kWh per household per year, from www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references.

Alternative Energy Spotlight – Pacific Coast Pipeline

The 55-acre Pacific Coast Pipeline Superfund site is in Fillmore, California. Starting in 1928, Texaco (now a subsidiary of Chevron Corporation) ran an oil refinery at the site. Improper disposal practices contaminated soil and groundwater. Texaco ceased refinery operations and dismantled the facility in 1950. Investigations by EPA and the California Department of Environmental Protection found contamination in surface soil and groundwater. EPA added the site to the Superfund program's National Priorities List (NPL) in 1989.

EPA treated shallow groundwater from 1992 to 2002 with a pump and treat system. Chevron dug up and disposed of about 42,000 cubic yards of contaminated soil in two on-site consolidation areas, which were capped. After completing the soil cleanup in 2014, EPA determined that the site was ready for commercial and recreational use. In 2015, a combination groundwater sparging and soil vapor extraction system was installed; it removed an additional 62 pounds of contaminants. Groundwater use will not be permitted until it reaches drinking water standards.

Cenergy Power, a solar energy company, leased the site property in 2016. It developed a 3 MW solar electricity generation facility. The facility came online and began generating electricity in September 2021. Using an 11,000-panel solar array, it provides electricity to power Ventura County facilities. The solar facility reduces the county's electricity costs by about \$100,000 per year and advances its sustainability goals by generating renewable energy. The array will reduce the county's estimated greenhouse emissions by more than 2,000 metric tons annually, a 5% reduction. Over the course of its 25-year agreement with Cenergy Power, the county's total savings will be an estimated \$3.9 to \$4.5 million. Chevron continues to own the site property and manages long-term groundwater remediation activities. The design of the solar facility is compatible with the site's remedy, ensuring the long-term protectiveness of human health and the environment.

For more information, please visit www.epa.gov/superfund/pacificcoastpipeline.

“The solar field didn't require any investment on the part of the county but will save the county approximately \$100,000 per year while providing a significant portion of our electricity in the form of clean solar power. This really was a win-win solution.”

David Sasek
Director, Ventura County General Services Agency



The 11,000-panel solar array at the Pacific Coast Pipeline Superfund site.

For more information about EPA's Superfund Redevelopment Program, please visit www.epa.gov/superfund-redevelopment.

Active Alternative Energy Installations, by Superfund Site

Site	EPA ID	Technology Type
AEROJET GENERAL CORP.	CAD980358832	Solar
AMERICAN CYANAMID	NJD002173276	Solar
APACHE POWDER CO.	AZD008399263	Solar
ARSENIC TRIOXIDE SITE	NDD980716963	Geothermal
BARKHAMSTED-NEW HARTFORD LANDFILL	CTD980732333	Solar
BRICK TOWNSHIP LANDFILL	NJD980505176	Solar
BROOKHAVEN NATIONAL LABORATORY (USDOE)	NY7890008975	Solar
BRUNSWICK NAVAL AIR STATION	ME8170022018	Solar, Biomass
CAMP PENDLETON MARINE CORPS BASE	CA2170023533	Solar
CENTRAL LANDFILL	RID980520183	Landfill gas
CHARLES GEORGE RECLAMATION TRUST LANDFILL	MAD003809266	Solar
CHEVRON QUESTA MINE	NMD002899094	Solar
CIBA-GEIGY CORP.	NJD001502517	Solar
CINNAMINSON TOWNSHIP (BLOCK 702) GROUND WATER CONTAMINATION	NJD980785638	Solar
CURTIS SPECIALTY PAPERS	NJD057143984	Solar
COMBE FILL NORTH LANDFILL	NJD980530596	Solar
CONTINENTAL STEEL CORP.	IND001213503	Solar, Wind
DAVISVILLE NAVAL CONSTRUCTION BATTALION CENTER	RI6170022036	Solar
DELILAH ROAD	NJD980529002	Solar
E.I. DU PONT DE NEMOURS & CO., INC. (NEWPORT PIGMENT PLANT LANDFILL)	DED980555122	Solar
ELIZABETH MINE	VTD988366621	Solar
ELLSWORTH AIR FORCE BASE	SD2571924644	Solar
F.E. WARREN AIR FORCE BASE	WY5571924179	Wind
FORT DETRICK AREA B GROUND WATER	MDD985397249	Solar
FORT DIX (LANDFILL SITE)	NJ2210020275	Solar
FRONTIER FERTILIZER	CAD071530380	Solar
GALLUP'S QUARRY	CTD108960972	Biomass
GE - HOUSATONIC RIVER	MAD002084093	Solar
GEMS LANDFILL	NJD980529192	Solar
GROVELAND WELLS	MAD980732317	Solar
INDUSTRI-PLEX	MAD076580950	Solar
IRON HORSE PARK	MAD051787323	Solar
ISLIP MUNICIPAL SANITARY LANDFILL	NYD980506901	Solar
JET PROPULSION LABORATORY (NASA) LANDFILL & DEVELOPMENT CO.	CA9800013030	Solar
	NJD048044325	Solar
LAWRENCE AVIATION INDUSTRIES, INC.	NYD002041531	Geothermal
LAWRENCE LIVERMORE NATL LAB, (MAIN SITE) (USDOE)	CA2890012584	Solar
LEVIATHAN MINE	CAD980673685	Solar
LOWRY LANDFILL	COD980499248	Landfill gas
MARTIN-MARIETTA, SODYECO, INC.	NCD001810365	Biomass
NATIONAL SEMICONDUCTOR CORP.	CAD041472986	Solar
NAVAL WEAPONS STATION EARLE (SITE A)	NJ0170022172	Solar
NEBRASKA ORDNANCE PLANT (FORMER)	NE6211890011	Solar

Site	EPA ID	Technology Type
NEWMARK GROUND WATER CONTAMINATION	CAD981434517	Solar
NORTHWEST PIPE & CASING/HALL PROCESS COMPANY	ORD980988307	Solar
NYANZA CHEMICAL WASTE DUMP	MAD990685422	Solar
OAK RIDGE RESERVATION (USDOE)	TN1890090003	Solar
OMEGA HILLS NORTH LANDFILL	WID000808568	Landfill gas
ORONOGO-DUENWEG MINING BELT	MOD980686281	Solar
OTIS AIR NATIONAL GUARD BASE/CAMP EDWARDS	MA2570024487	Wind
PACIFIC COAST PIPELINE	CAD980636781	Solar
PALMERTON ZINC PILE	PAD002395887	Solar
PANTEX PLANT (USDOE)	TX4890110527	Wind
PEMACO MAYWOOD	CAD980737092	Solar
PETERSON/PURITAN, INC.	RID055176283	Solar
PICATINNY ARSENAL (USARMY)	NJ3210020704	Solar
PICILLO FARM	RID980579056	Wind
PINE BEND SANITARY LANDFILL	MND000245795	Landfill gas
POWNAI TANNERY	VTD069910354	Hydro
PRICE LANDFILL	NJD070281175	Solar
REFUSE HIDEAWAY LANDFILL	WID980610604	Solar
REILLY TAR & CHEMICAL CORP. (INDIANAPOLIS PLANT)	IND000807107	Solar
RE-SOLVE, INC.	MAD980520621	Solar
ROSE HILL REGIONAL LANDFILL	RID980521025	Solar
SACRAMENTO ARMY DEPOT	CA0210020780	Solar
SAVANNAH RIVER SITE (USDOE)	SC1890008989	Biomass
SCIENTIFIC CHEMICAL PROCESSING	NJD070565403	Solar
SOLVENTS RECOVERY SERVICE OF NEW ENGLAND	CTD009717604	Solar
SOUTH BRUNSWICK LANDFILL	NJD980530679	Solar
SOUTHSIDE SANITARY LANDFILL	IND980607360	Landfill gas
STROTHER FIELD INDUSTRIAL PARK	KSD980862726	Solar
SULLIVAN'S LEDGE	MAD980731343	Solar
SUTTON BROOK DISPOSAL AREA	MAD980520696	Solar
TRAVIS AIR FORCE BASE	CA5570024575	Solar
TUCSON INTERNATIONAL AIRPORT AREA	AZD980737530	Solar
UNITED CHROME PRODUCTS, INC	ORD009043001	Solar
VENTRON/ VELSICOL	NJD980529879	Solar
W.R. GRACE & CO., INC. (ACTON PLANT)	MAD001002252	Solar
WASHINGTON COUNTY LANDFILL	MND980704738	Solar
WELSBACH & GENERAL GAS MANTLE (CAMDEN RADIATION)	NJD986620995	Solar
WEST KINGSTON TOWN DUMP/URI DISPOSAL AREA	RID981063993	Solar
YORK COUNTY SOLID WASTE AND REFUSE AUTHORITY LANDFILL	PAD980830715	Solar

Notes:

NASA = National Aeronautics and Space Administration

USDOE = U.S. Department of Energy